

*Eric Trist, Gurth Higgin, Hugh Murray
and Alexander Pollock*

The Assumption of Ordinariness as a Denial Mechanism

Innovation and Conflict in a Coal Mine*

This paper describes and analyzes an episode in an action-research project undertaken by the Tavistock Institute of Human Relations in the British coal-mining industry that continued, with interruptions, for eight years during the 1950s. It shows how what Bion (1961) called the “hatred of learning through experience” all but defeated an innovative collaborative endeavor by occasioning conflicts in which management and labor regressed to traditional adversarial positions.

The innovation in question introduced a new form of work organization, known as “composite working.” This occurred spontaneously in three different coalfields and heralded what Emery (1978) has called a “new paradigm of work.” It offers an alternative to technocratic bureaucracy in which self-regulating, multi-skilled work groups become building blocks for a more democratic and efficient organizational form. In so doing it rejects the technological imperative and seeks to find the best match between, or, in systems language, the joint optimization of, the social and technical system. It has therefore become known as the “socio-technical” approach. Under suitable conditions it leads to higher productivity and higher job satisfaction than conventional work systems.

The socio-technical approach has now made some headway in all western industrialized countries, but against enormous resistance. This fact is not surprising, as it runs counter to long-held beliefs about how work should be organized (Trist et al., 1963) and disturbs the socially structured psychological defenses (Jaques, 1953) that managers and workers alike have built up to adapt

*A shortened and rewritten version of chapters 19–22 in Trist et al., *Organizational Choice*. London: Tavistock Publications, 1963.

to conventional organizational forms. These constitute key elements in their identity (Holland, 1985).

The colliery was a village pit on which the community was totally dependent. The National Coal Board had already threatened to close it, but closure had been averted by a major organizational innovation in one of the seams—the Manley—which for the first time introduced composite working into semi-mechanized longwalls, then the prevailing form of mining.

The success of the Manley innovation was phenomenal—in productivity, quality of output and operating costs. It was no less so as regards earnings and work satisfaction, and in relationships among teams and between labor and management. There was virtually no voluntary absenteeism and accidents and sickness were halved. A major factor in this success was that component groups, which were self-selected, had previously worked together on “short-walls”—a pre-longwall technology in which composite working was traditional.

Narrative

THE CHARACTER OF THE DRIFT

The episode now to be described reports the course of events in the opening up of a new production unit in an old colliery. In its early life the geological conditions were difficult in the extreme and in the team, which was a new group put together for extraneous reasons, the majority had no previous experience of the technology or the method of working. Geological and socio-psychological circumstances aggravated each other.

The unit or panel comprised the first two faces of a new drift—a tunnel sloping down from the surface to the coal area. Work began, therefore, near the outcrop, a major factor in creating difficult mining conditions, which improved when the faces got farther in and cover became more substantial. Coal height was 28", above which were 4" of ramble (loose stone). The panel consisted of two 80-yard longwall faces, east and west of a main roadway. Face conveyor belts fed onto a main conveyor which discharged into a hopper from which tubs were filled. Face supports were wooden props and steel straps, with collapsible steel chocks which reinforced the roof support system. This was the customary set-up before faces became completely mechanized. The coal was won by pneumatic picks rather than undercut by electrical coal cutters as it was on the Manley. This put a premium on hewing experience and skill which varied widely among faceworkers.

The drift was separate from the other workings of the colliery and the double

unit was a new enterprise expected to produce coal equal to 25 percent of the previous output of the whole mine, whose life it would considerably extend. The venture was based on the very imperfect understandings of the Manley innovation, a main cause of the nearly complete failure which occurred.

A complement of 51 faceworkers was planned with six spare men to provide substitutes in case of absences. The hewing task, carried out over one or two shifts, embraces breaking coal from the face with pneumatic picks, filling it onto the face conveyor and setting roof supports as the face is cleared. The "hewers" are followed on the next shift by the "pullers" who advance the face conveyors and the steel chocks. At the same time the "stonemen" enlarge and advance the three roadways (tunnels) between and at the end of the faces on the panel.

In composite working all team members are multi-skilled (in this case in hewing, pulling and stonework); they can thus exchange shifts and practice task continuity (deploying themselves as necessary to carry on with succeeding tasks); they share equally in a common pay note. Teams are self-regulating and practice what we called "responsible autonomy" (Trist and Bamforth, 1951).

Both management and men expected "teething troubles," but it was hoped that the advantages of composite working would begin to be realized within a few weeks. No-one expected the teething troubles to last seven months, or that eleven months would elapse before the planned level of output was regularly maintained.

One of the conditions of the composite agreement was that the men should make themselves up into sets of the required number. In the present case this condition was waived by both management and lodge (trade union local branch). The colliery was in process of reorganization and a number of underground workers were becoming redundant. Management and lodge agreed to draft these men into the new team, together with those who had been engaged on the development of the drift.

A meeting of the team was held by the lodge a few days before the start to acquaint the men with the agreement, to allocate them provisionally to tasks and shifts, and to appoint team captains for different task groups. Eight men volunteered for pulling and ten for stonework, the remaining 33 being allocated to hewing. Three team captains were elected. Several men expressed anxiety lest they were condemning themselves to permanent nightshift and received assurance that after a week or two it would be possible to start rotating shifts.

Representatives of the lodge, together with the three team captains, then met with management to agree on final details. Although there had been a vague expectation that three shifts would be worked, it was decided to have only two, concentrating coal-getting on the dayshift (9 a.m.–4:30 p.m.) and doing pulling and stonework on the nightshift (4:30 p.m.–midnight). The 33

men on the hewing shift were to be deployed 16 to each face, with one man in the main roadway, while on the nightshift there were to be four pullers to each face, six stonemen in the main roadway and two in each of the face-end roadways. There were three deputies (supervisors) all of whom came from machine-cut rather than hewing faces. In charge was an undermanager recently appointed to the pit.

THE FIRST WEEK: INITIAL FAILURE

Before going in on the first morning, the 33 men on the hewing shift allocated themselves to places by cavilling. Cavilling is a time-honored practice for the allocation of men and groups to work places within a seam on a chance basis—one was more likely to receive justice at the hands of chance than of management. More than two-thirds of these men had little or no recent experience with either longwall working or the use of pneumatic picks. The lack of hewing experience soon began to show, and it became obvious that the target advance of 4 feet 6 inches was not going to be achieved.

The manager visited the face and outlined the immediate requirements for stabilizing the situation. From this point on he retained direct control and ordered the concentration of effort on one face per shift. But managerial attention was no substitute for experience in a team confronted by bad conditions. In the early morning of Saturday, 20 yards closed completely and it was decided to abandon both faces and win them out afresh. This took a fortnight.

A SECOND ATTEMPT GETS INTO DIFFICULTIES

The manager now held a meeting with twelve of the men, at which several decisions were made. A token foreshift of hewers was arranged for the breaking-in task; supervisory reinforcements were granted; and the production target was reduced. The manager also decided not to hold the team to the wages agreement but to pay a day-wage.

The pattern of advance in the seven subsequent weeks until the next crisis was one of concentration on alternate faces each day. During this period conditions remained bad.

According to the deputies, the differences in effectiveness among the men on the hewing shift were too great to continue much longer. The men expressed similar feelings and there was some belief that not all the men were pulling their weight. This applied not only to the quantity of coal hewn but also to the quality of timbering. These problems gave rise to tension between as well as within shifts. The additional supervisors allocated to the hewing shift officially had the sole task of instruction, but they were subjected to pressure to reinforce

the hewing so that little progress was made in training men in the use of pneumatic picks.

THE ISSUE OF RECONSTITUTING THE TEAM

It was with some knowledge of this background that the manager met the team captains on the Saturday of week 4. He asked them to dissolve the existing team so that the men could choose a new one from among all those working in the drift. Would they meet him again on Monday after discussing his proposal at the lodge meeting? To agree would have meant to accept a modification of the sacrosanct cavilling rules. Conveniently, the agenda for the lodge meeting was full and no time was found to discuss such a critical issue. A message was sent to the manager, who had heard of the intention to cavil for shifts. In reply he insisted on experienced pullers staying for the time being with their task. If cavils were drawn for shifts and inexperienced men allocated to pulling, he would stop the face and disband the team. The lodge decided that two committee men should attend a meeting on Wednesday between the manager and the team captains.

At that meeting no agreement was reached. The manager repeated his view that dissension was hampering progress, adding that he knew that some men wanted to leave the team and that there were others whom the team would like to drop. Would they settle this? For his part, he was willing to provide two extra hewers on dayshift and two extra pullers and one stoneman on nightshift, to be paid for by him and not out of the common note. Union officers visited the face for a "pep talk" with the team, but decisions were left to the lodge meeting the following Sunday.

At this meeting the chairman outlined the events of the previous two weeks, and gave the manager's view. The manager, he said, seemed reasonable; the men for their part, had a responsibility too—"we have to put our own house in order." The formal purpose of the meeting was to consider the manager's suggestion that the team reform itself, but this topic, with its implication of discarding members, was put aside. The chairman first presented the situation in its wider setting as seen by the lodge committee, there being three considerations: the nature of the agreement, the importance of the drift to the life of the pit and the present position as a test of the new type of agreement.

The chairman then moved to the question of team changes and stressed the need to avoid hasty judgments about people's worth. In the case of men who wished to come off the team of their own accord, there was nothing the union could do to stop them, but those who left the team would have to take what jobs could be found for them elsewhere in the pit, which might not be particularly well paid.

On the question of dropping men, some of those present who came from other parts of the pit expressed surprise that inequality of contribution should be regarded as something to worry about and cited their own teams as examples. It was pointed out that in those teams the men had chosen each other and had therefore accepted these differences in advance, whereas on this team the men had been placed together.

Five older men left the team and were transferred. The management expressed the view that they had left because the younger men had been reproaching them with failing to keep up. This was unlikely but is an instance of management's perception of the nature and causes of the dissension. At the same time two of the younger men from the dayshift left the pit and the industry and another went off sick, returning only to light work. The team was thus reduced by eight, six of whom were replaced by the six spare men in the drift, who were not replaced. Though volunteers were called for, none was forthcoming.

CRISIS AND RESOLUTION

THE MANAGER ENFORCES THE AGREEMENT

For the three weeks following the lodge meeting in week 6 things remained quiet, mainly because of the Christmas and New Year holidays, though two more men left the industry and informal shift exchanges began. A man wanting to change his shift had to find someone on the other shift with whom to change. Some of the hewers were accused of monopolizing the dayshift and capitalizing on their lack of experience to stay on it.

Though within the hewing shift the feeling remained that certain men were not doing their share, this feeling was never directed at specific individuals.

The first full week after the holiday period (week 9) began quite well and on the Monday the hewing shift, with two men short, cleared off the coal with the exception of 20 yards; they were not able to keep up this pace.

The manager had a talk with the team captains: things were not going well; he had done all he could; from now (week 9) on he intended to pay strictly in accordance with the agreement. Disappointed that none of his efforts had had much effect, he believed there was still dissension in the team over differences in qualifications, ability and night-shift, which the men would not admit and which was the main cause of lack of progress. Following this announcement of his intention to pay in accordance with the agreement, he visited the face, criticizing the timbering, which was bad in places, and putting his foot down on finding experienced pullers on the hewing shift. His insistence that three of these men return to nightshift caused particular dismay.

Towards the end of this week, and more so in the next, conversation centered on the level of pay to be expected under a strictly interpreted agreement. There were rumors about people leaving, though no-one could ever say who, and only one man gave notice. The others, as the Thursday of week 10 drew nearer, contented themselves with speculating about other jobs. The present level of earnings was little enough, in their view, for the work involved under such bad conditions and anything less would not be worth it. There was also some doubt about whether the agreement was enforceable, given the nature of the conditions. They changed their attitude to management: the manager was now regarded as obstinate in his general attitude and rigid in his insistence on adhering to the original plan; as to the undermanager, "things have got beyond him."

Meanwhile, conditions were once again deteriorating, particularly on the West face. On the Wednesday nightshift (week 10) the manager inspected the West face and decided that conditions were so bad that he would withdraw the men and shorten the face. By allowing the western half to close, he could concentrate on rectifying the support of the eastern half—the 40 yards nearest to the main gate.

The deputies expected things to come to a head on the Thursday when the men found how much their pay had dropped. When they received their pay they were in a state of considerable shock and they went in a body to the office and asked the manager to see four representatives—one from each face and shift. The manager agreed to see three. He refused to discuss paying more and insisted on sticking to the agreement. The shortening of the face meant a reduction in manpower and he asked them to make up a set of 42 from all the men available in the drift. He wanted only experienced pullers on the nightshift for at least the next fortnight, after which they could think about rotating inexperienced men to learn the job. He asked the three men to see him again the next afternoon, hoping that the shortened face would provide the opportunity to get the nine worst men off the team.

To the men, picking a team of 42 or choosing nine to be dropped was the same and could not be allowed. There was a procedure in the cavilling rules for handling such circumstances. The only way open to the manager to achieve his aim within the rules would have been to take the whole set off the face and then to ask for volunteers, of which none would have been forthcoming. As to his view that less work was being done than could be expected, they believed he had misinterpreted the circumstances and had failed to allow for the conditions. Despite his visits to the panel and his action in shortening the West face, they felt he was unaware of how bad conditions had become, especially for the nightshift.

Before the three-man delegation met him again on the Friday one man was replaced as he was thought too prone to agree with the manager; the latter was

now told that none of his requests was acceptable and that the whole situation would have to be discussed at the lodge.

THE LODGE ATTITUDE

At the lodge meeting on the Sunday (beginning week 11) the secretary said that the manager had informed him that the West face had been shortened and that it had therefore become necessary to reduce the size of the team. The chairman said that the men in this pit had always been opposed to anything which savored of "survival of the fittest" or anything which could lead to one man being preferred over another "because someone liked the color of his eyes or the way his hair was parted." The cavilling rules had been built up to deal with this and to cover situations of the kind which had arisen. They had to be followed, despite the manager's opinion that the cavilling rules should be "thrown out of the window." He was getting tough and putting the blame on the men. Although 10 percent of the responsibility lay with the men, the manager had been told about conditions but had refused to take notice. If he continued to ignore the facts, the lodge would seek a meeting with higher management. If he refused to arrange this, they would declare a dispute and such a meeting would follow automatically. A fortnight ago the manager had been delighted with the Monday achievement of removing all but 20 yards, but had refused to listen when the difficulties of pulling were described. There was nothing in the agreement which compelled the team to attempt an advance of 4 feet 6 inches; if they felt 3 feet was more within their scope and would give more time for pulling then that was what the team captains should decide. Also, work such as digging chocks out and digging to get them in again fell outside the scope of the agreement. Some of the men raised similar points; these were noted as material with which to approach the manager.

It was then moved and seconded that cavils should be drawn to decide who should leave the team. The chairman thought that the manager had rushed them and proposed the actual procedure be carried over until the next meeting. This was agreed. One of the men remarked that the manager seemed to know a good deal about what went on in the team and that, although he heard things officially from the deputies, some of the men also must have let things slip. The chairman observed that no reasonable man would mistake things said in the heat of the moment for considered opinions, but the manager was not a reasonable man. It was agreed that no-one should see the manager unless a member of the lodge committee was present.

In the following week (week 11) the lodge committee met the manager without reaching agreement. Nevertheless, the manager felt that at least each side had stated its case and had disagreed without "getting at each other's

throats." During this week the Area Labour Relations Officer made an unofficial visit to the pit and looked around the drift. There was a further meeting in week 12 between the lodge committee and the manager when the question of pay was again raised and again refused, but the manager and members of the committee agreed to visit the drift together to see both hewing and pulling. A lodge meeting was held to report progress, the committee announcing that if they were "unable to get any sense out of the manager" they would be prepared to withdraw labor from the drift, "even if this meant jeopardizing the output of the colliery."

During the three weeks of negotiation output was low. In week 12 some of the pullers decided that they had had enough of continuous nightshift and unsuccessful canvassing and "put the cavils in" for a change of shifts. That the manager had insisted on leaving experienced pullers on nightshift was discounted; he was not paying enough; they were being imposed upon and had therefore no obligation to stay on nightshift. More resentment was expressed than ever before that some men on dayshift had never been off it and never would be unless a formal procedure prevented evasions. Some dayshift men queried the validity of the cavils but were challenged to bring their queries to the lodge meeting. The deputy agreed to enforce the cavilling allocations by sending home anyone who turned up on the wrong shift.

In the first week of the crisis the feeling about the level of earnings had been one of resentment, mixed with surprise that the manager had chosen to enforce the agreement in the week during which output had been the highest. It was, they said, ironic that the highest output should have produced the lowest pay. The second week's pay was lower still. When this became known the mood changed from resentment to dismay. In the third week, despite earnings which were even lower, the atmosphere became more cheerful. The change, remarked on by both men and deputies, was attributed to the fact that negotiations, however difficult, were still proceeding. This was taken as a sign that a settlement was likely to be reached.

THE NEW AGREEMENT

In week 13 the proposed visits by the manager and members of the lodge committee were made to both shifts and another meeting was held at which the Area Labour Relations Officer was present. Agreement was reached on the following points:

- The rate of payment for output above the basic was increased to an acceptable figure and the manager agreed to make up the wages for weeks 12 and 13 to the level before he enforced the strict agreement.

- The target was reduced by 11 percent to enable the men to accept the task as within their compass.
- The manager made a list of the men he wanted on each shift and it was agreed to follow this for two or three weeks.
- Although the manager had withdrawn the extra men when he enforced the agreement, he now agreed to put two extra men, paid by himself and not off the team's earnings, into the face-end roadways where the work was falling behind.
- Four men were cavilled off the team (which had already lost five because of sickness or transfer to other industries). Contrary to the manager's original intention these four stayed in the drift as "spare men."

This agreement was endorsed by the lodge meeting on the Sunday and work on the Monday of week 14 went noticeably better.

THE EFFECTS OF THE SETTLEMENT

On the first shift under the new arrangements all the coal was taken off and the air-pipes and conveyors moved over into their new positions. Though this was not repeated for both faces for several weeks, the rate of output improved until in week 17 it reached the level planned for the shortened face. In week 22 a start was made on opening out the West face and 10 weeks later this was completed, output just exceeding the planned target. The scheduled target, however, was not consistently maintained until after week 44.

For the first week under the new agreement (week 14) pay just exceeded that for the two previous weeks when it had been made up. Some of the men thought such a difference too small for so marked an increase in output, but the team generally did not accept this as a valid point. Before the actual earnings became known there was a good deal of speculation about what they would be, expressed in the form, "I wonder what he will give us," as if somehow the figure depended upon the goodwill of the manager.

In week 16 some of the men began to exchange shifts on an individual basis, but there was no system of shift rotation over the team as a whole. On the Monday of week 17, 25 men appeared on dayshift instead of the scheduled 19 and there were 6 men short on nightshift. The undermanager and the deputies regarded this as proof that the team could not manage its own shift changes and took over the function themselves, designating the men they wished to see on nightshift and again announcing that anyone coming on the wrong shift would be sent home. In the following week a blackboard was put up at the meeting-place, on which men entered their names for the next week's shifts. The deputies, with the undermanager, rearranged such men as they thought neces-

sary, on the principle that regular nightshift men should be given a spell on dayshift and that less able dayshift men should be brought into the nightshift. In addition, dayshift men with no pulling experience were brought into nightshift every other week to complete the statutory period of training. At this time it was a simple enough matter to allow everyone to alternate night and day.

After the extension of the West face, new men were fed into the team. This complicated attempts at equitable shift rotation and management retained control on an ad hoc basis. Once the face had been extended to its normal length and the team built up to full strength, the rotation of shifts became more systematized. Eighteen men, in three groups of six, rotated weekly over all three shifts, while the remainder alternated two weeks' dayshift with one week's nightshift. Within this broad pattern there was room for private arrangements among individuals. By this time the drift had settled down to regular production.

Things remained at this level for six more months. There was then a drop in coal height of 7 percent and a consequent reduction of output. There was also pressure from the men for a change in rates of pay. Following a precedent from elsewhere in the pit where better rates had been obtained for single units, the manager offered to treat the panel as two separate faces. He still felt that there was some dissension among the men and that such a change might help. The offer was accepted. The team split into two by mutual selection and work on the new basis began, 73 weeks after the opening of the drift.

Analysis

THE ASSUMPTION OF ORDINARINESS

This account has been a chronicle of how things went wrong. Management, lodge and members of the team all assumed that the drift would be an ordinary unit, to be run in the ordinary way and unlikely to experience more than ordinary difficulties. The untenability of this assumption, yet the persistence of behavior based on it, suggest that, in a way they were unable to recognize, those concerned were using the idea of ordinariness as a means of psychological defense against elements in the situation they were unwilling to confront. The principal effect was that the panel was treated throughout as a production unit under difficulties, rather than perceived for what it was—a training and development project working under the stress of a demand for full production. Though the need for support was conceded, the time allowed (8 weeks) was no more than a token period and the underlying assumption manifested itself in a number of ways, especially in the emphasis on coal production as the primary task. Though, in words, the need for training and acquiring experi-

ence was acknowledged, preoccupation with output carried the real message of action.

The degree of unreality in assuming ordinariness may be measured by the fact that an inexperienced management and an inexperienced work team were brought together in a novel task under conditions likely to be difficult—especially in the beginning. The undermanager was new to the pit. It was, moreover, his first appointment as an undermanager. The deputies were new to each other and to the men, and the majority of the men were new to any form of longwall working. Though no-one knew the problems likely to arise in developing a hewing panel on composite principles, there was ample precedent for anticipating trouble if the scatter of hewing abilities was too wide. Moreover, plenty of experience was available in the neighborhood to suggest that the roof was likely to be awkward until the faces were farther in from the outcrop—which meant that pulling experience would be at a premium.

All this was known by management and lodge when they entered negotiations. It was known also by the men. Yet it was all disregarded. The pit was under severe pressure to become economic—as soon as possible—and there was a great deal of anxiety about this; hence the preoccupation with production. The Manley composite panels had been successful—beyond expectation and without trouble. The real effort, however, in the Manley negotiations had been on the terms of the agreement. Problems of work organization had been left to take care of themselves. This they had done, in a very remarkable way, but no analysis had been made of the reasons. It was simply taken for granted that such problems would take care of themselves again. Meanwhile, reorganization elsewhere in the colliery had made redundant a considerable number of faceworkers. The lodge sought conditions for their redeployment without the relegation of any from facework status. Moreover, the one piece of “hard news” which had circulated about the Manley was that earnings were high—higher than earnings had ever been in the pit. It was an attractive prospect, therefore, to workers finishing odd jobs in older workings and wondering what might happen to them, to join a new drift and get in on the advantages of the new type of agreement.

This situation led to a feature which was not ordinary about the drift: the team was drafted, not self-selected, with the result that there was no commitment to accepting the differences in skill and experience which were later discovered. Even the safeguard inherent in the traditional procedure for forming teams was dispensed with. One may infer that the pretense that special measures were unnecessary and that unusual risks were justified covered a pervasive fear that the drift would not succeed, with the serious repercussions this would have for the future of the colliery—its death. This is the underneath anxiety, intense in the change situation, which brought about the collusive denial of reality which in turn led to the initial assumption of ordinariness.

TABLE I Developments in the Drift

<i>Week</i>	<i>Events</i>	<i>M</i>	<i>R</i>	<i>L</i>	<i>T</i>
1	Difficulties too great for unorganized and inexperienced team. Face closes under extremely bad conditions.	—			<20
2	Rewinning.	—			0
3	Rewinning. Manager meets 12 of team: reinforcements granted; production target reduced—alternate face concentration; token third shift of 8 hewers to break in; make up of wages on a day basis.	1			0
4	Poor production progress—conditions still bad. No internal team organization; no permanent team captains; differences in hewing ability cause trouble; face supervisors pressed into working rather than instructing. Manager meets team captains: wants team dissolved and new team picked, eliminating poorest workers.	1	5		<50
5	Manager meets 2 representatives of lodge committee and team captains; no agreement over dropping poorer workers. Manager offers further reinforcements.	2	10		<50
6	Lodge meeting reviews situation, chairman supports manager, holds men back on premature demands for shift changes, warns against hasty judgments over dropping men. 5 volunteers come off (older men).	1	10	5	<50
7	Three younger men leave. 6 spare men make up team, are not themselves replaced. Volunteers called for, none come forward.	—	10	8	<50
8	Christmas holidays. 2 more men leave.	—	10	10	<50
9	Manager loses patience with poor production and inability of the men to sort themselves out. Enforces agreement. Withdraws extra labor. 2 more leavers.	1	0	12	<40
10	Manager shortens West face by half in view of persistent bad conditions. Only 42 men now required. He asks for new team, dropping 9 poorest. Delegation of men refuse to make such judgments; want cavils. Pay under strict agreement drops. Shock and resentment. Manager refuses to pay outside the agreement.	2	0		<30
11	Lodge insists on cavils over the 9 surplus men. Previous support of manager replaced by opposition. Proposal to seek meeting with higher management. If refused by manager, lodge would declare dispute—such a meeting then automatic. Manager and lodge committee meet—no agreement. Area Labour Relations Officer visits pit.	3	0		<30

TABLE I *Continued*

<i>Week</i>	<i>Events</i>	<i>M</i>	<i>R</i>	<i>L</i>	<i>T</i>
12	Manager/lodge committee meeting: manager refuses to do anything about pay but agrees to visit day and night shift with representatives of lodge. At subsequent lodge meeting, committee announces intention of withdrawing labor from the drift if manager won't come to terms.	2	0		<30
13	A new agreement is reached between management and lodge with the help of the Area Labour Relations Officer. Wages improved, target reduced, redundant men cavilled off (only 4 left out of 9). Special men to remain in key roles on each shift until difficulties overcome. Two men granted as reinforcements.	2	0		<30
14-17	Face management steps in and creates rotation system. Planned production reached, proportional to shortened face, within three weeks of the settlement.	—	2		<70
18-21	Consolidation of team.	—	2		<70
22-33	West face opened out. Planned target reached for first time in week 33.	—	2		<90
34-43	Fluctuation about planned target.	—	2		<100
44-72	Steady state production.	1	0		=100
73-	The two faces go on separate notes as better prices for single units had been obtained elsewhere in the pit.	—	0		=100

M = Meetings (management/lodge, lodge); R = Reinforcements (cumulative); L = Leavers (cumulative); T = percent production target

THE REACTIONS TO FAILURE

The reactions to what transpired after work began may best be followed from Table 1, which relates the events previously described to the amount of activity induced in wider managerial and negotiating systems and to the levels of reinforcement, leaving, and productivity which characterized different phases in the socio-technical history of the drift.

One might have supposed that the closure of the face at the end of the first week would have given a big enough shock to cause a radical re-appraisal of the whole undertaking. Confrontation of what had happened, however, at a higher level of reality would have meant giving up the assumption of ordinarity. Instead, during weeks 4, 5 and 6 its role as the "chosen" defense was bolstered by a series of measures that attempted to make it work in defiance of

the facts. This is the latent meaning of the generous reinforcements offered by the manager (equal to one-fifth of the team's strength) and of the extent of his support by the lodge.

Nevertheless, a split in attitudes and relations was already detectable. At the same time as giving reinforcement, the manager asked the team to reorganize itself in a way which brought it into direct collision with the revered cavilling rules that regulated the relations between management and workers. The men, perceiving this as an attack, started to go into opposition. This is the negative side of the collusive process, just as much lacking in task orientation as the positive side. It led to a type of impasse, familiar in industrial relations, in which no learning takes place from what is being experienced.

As the illusion wore thin and the impasse became more apparent the men began to despair (by week 9 a quarter of the team had left), while the manager, desperate over costs and production and interpreting the men's lack of response as an act of hostility, enforced the agreement as regards both pay and manpower. This sudden regression to coercive control—punishment-centered bureaucracy in Gouldner's terms (1954:207)—produced the corresponding stereotype of militancy in the men's reaction, and manager and lodge found themselves in head-on conflict, with a threat of a dispute.

In the terms introduced by Bion (1961) for the description of unconscious group processes, basic assumption fight/flight (*baF*) had been mobilized and suffused the behavior of the group. Management and workers fought each other in common flight from the problems that had to be solved in the real task situation. In week 12 the mood on both sides changed after the visit of the Area Labour Relations Officer. In Bion's terms, basic assumption fight/flight had now been replaced in the emotional life of the group by basic assumption dependence (*baD*), and in this modality a settlement was reached with the help of a "wise and benevolent" figure representing the higher authority of the Area General Manager—an extremely "good object" to everyone in the pit. Within three weeks there was a dramatic improvement in productive performance with the target reached in proportion to the shortened face.

The new agreement recognized more of the realities of the situation than had the original and represents a partial undoing of the assumption of ordinariness, some learning through experience having taken place. On the other hand, the working group continued in a management-dependent phase for several months, with the deputies stepping in and making all arrangements for face deployment and task-shift rotation. This had a reality component in that new skills and relationships could not be consolidated until the face was opened out again and the team built up to full strength. Some outside help on matters of organization was beneficial while task learning proceeded and new members were being absorbed. Nevertheless, it was 11 months before the production target was regularly reached. Even after 18 months, when the panel split into

two teams on separate pay notes, there was still doubt in the mind of the manager (and the observations of the research team confirmed this) as to whether the drift teams had attained the cohesive independence of the Manley panels. The original collusive denial of reality and the subsequent pattern of interactions between management, lodge and the working group had impaired, at least for a time, the capacity to develop responsible autonomy.

CORRECTIVE MEASURES

With the situation structured as it was and the process started on the path taken, the subsequent course of events was to a large extent already determined. The available resources were used, the actors in all roles behaving very much according to expectation. As soon as the working group and immediate face management showed themselves unable to contain the situation, representatives of the next largest system (the colliery) stepped in, with the manager taking direct control and the lodge becoming officially involved. When the situation still remained out of hand, the even larger Area system became implicated. Though a settlement was now reached, matters were only put right in the 13th week after much expenditure of emotion and time, serious losses in production and the incurrence of substantial additional costs in rewinning faces, making up wages and remunerating reinforcements. The working group was inhibited from developing responsible autonomy and the whole episode may serve as an illustration that no amount of management from the outside—whether supportive or coercive—can replace effective self-regulation by the primary group.

One may ask what measures not immediately available in the surrounding work culture—since those available were used—might have prevented the situation from developing in such a troublesome manner. To answer this question, one must ask how an assumption of ordinariness might have been prevented in the first place, which is equivalent to asking what might have permitted the negotiating group to provide leadership in the reality rather than the irreality dimension (cf. Lewin, 1935). The view is put forward that members of the negotiating group would have been able to master more of their own anxieties, which represented those of the colliery at large, and so been able to work out a more realistic scheme if they had had a fuller understanding of the reasons for the success of the Manley panels. They would then have known something of the conditions required for effective team work in composite longwall working and would have recognized the serious implications of their absence in the drift. At the same time such a fuller understanding would have demonstrated that it was not impossible to make a plan which would have brought the required conditions into existence. An effective plan, however,

would have entailed complete abandonment of the assumption of ordinari-ness—with its implications that full production was realizable after a brief period of settling in. The drift could then have been set up as a special training and development unit with the prior task of becoming a balanced and cohesive work force as a condition for attempting target production.

Such a step, however, would not have been easy within the norms of the prevailing work culture. These permitted the crisis to be resolved without a dispute and, in the end, a level of production to be reached better than that likely to have been achieved under conventional arrangements. What the prevailing norms did not provide was any precedent, or “tool kit,” for analyzing factors in the socio-psychological system in a way which would have broken down the assumption of ordinari-ness in the starting situation, and avoided the consequent tensions and loss of production.

The negotiations which led to the wages and manning agreement which had been so successful in launching the Manley panels had taken a year to complete, during which the many difficulties encountered had been successfully worked through. Matters of work organization, however, had scarcely been discussed. They were left “in the hands of the tradition” which was trusted to take care of them; that is, it was supposed that organizational matters would remain on familiar ground. In the Manley undertaking they did, as the men in various sub-groups had previously worked together, often on composite short walls, and were in any case self-selected sets. None of this was the case in the drift. New ground, unfamiliar to all, had to be broken.

With the results of both the Manley and the drift to hand, the next job of the research team was to make an explicit formulation of the psychological and sociological aspects of composite longwall working. These yielded a new set of principles which could be used for converting other panels from conventional to composite longwall working.

The Institute had begun its studies of group dynamics in industrial settings by feeding in appropriately timed interventions as the work proceeded. This followed the psychoanalytic tradition and had been successful in projects such as the Glacier Project (Jaques, 1951). This, however, had not been concerned with an order of change that constituted a paradigm shift, as did the change from conventional to composite working in longwall coal-mining.

In such cases the research team has not only to develop an explicit model of the emergent system but to offer it to those concerned who have a cognitive as well as an emotional problem in making the shift. For there is a discontinuity and to encounter the novel casts doubt on familiar maps as well as on deeply held beliefs. The double difficulty that ensues creates confusion which clears up when they can clearly envisage the alternative as an articulated systematic whole and find that it is suitable for them. In the meanwhile, they tend to be trapped in their hatred of learning through experience and usually need intel-

lectual as well as emotional assistance in order to get out of the trap. Otherwise they remain in the grip of such primitive defenses as denial.

The present project points to one set of conditions under which the psychoanalytic model of intervention has to be transcended in action research in organizational settings.

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